the United States use septic systems. The volume of waste water processed by septic systems is about 3.5 billion gallons per day. Since the contaminant load from septic systems is proportional to the population serviced by septic systems, restricting septic systems to low-density areas can reduce ground water pollution. Townships on Long Island have implemented strict zoning requirements that prohibit the use of septic systems in areas with densities above a location-specific maximum density. The maximum density ranges from one half acre per dwelling unit in some areas to 5 acres per dwelling unit in the Southampton portion of the Pine Barrens. The town of Brookhaven implemented 1-acre and 2-acre zoning for septic systems on property in the Pine Barrens that previously had been allowed septic systems on smaller lots. The 2-acre upzoning has been upheld following challenges by landowners in both federal and state courts.

The Suffolk County Planning Department, the Long Island Regional Planning Commission, and the townships, in general, recognize that limiting development to protect ground water through zoning and other forms of development restrictions is a high priority. Long Island transferred 644 acres of oak brush plains to the New York State Department of Environmental Conservation (DEC) in August 1984 with a commitment from the DEC commissioner that it be established as a nature preserve.

It is also possible to reduce nonpoint source pollution of ground water by altering the form in which contaminating chemicals are used. The best example is the replacement of ordinary fertilizers with slow-release formulations. Plants cannot absorb all the nutrients in the fertilizer quickly. A slow-release formulation, which is geared to a plant's uptake rate, can reduce the amount of fertilizer applied and the amount of nitrate that leaches. Nitrate leaching can also be reduced by splitting the amount of a regular-formulation fertilizer between two applications. Crop rotation with nitrogen-producing legumes can reduce the need for commercial fertilizers and subsequent leaching. Unfortunately for some situations, crop rotation is not as profitable as producing a monoculture.

Several states have established programs to collect small amounts of hazardous materials from home owners and businesses. For example, Florida has "Amnesty Days," when individuals or small firms can bring solvents, pesticides, or other organic chemicals to central collection areas, where they are disposed of by public authorities. Similar programs have been implemented in New York and California.

Conclusions and Recommendations

Nonpoint sources of ground water contamination are very difficult to control for several reasons. The committee chose to concentrate its recommendations on the use of pesticides because the task of preventing pesticide